

Appl. No. 10/707,711
Docket No. 140021 / GEM-0094

REMARKS / ARGUMENTS

Status of Claims

Claims 1-23 are pending in the application and stand rejected. Applicant has amended Claims 1, 21 and 23, and has added new Claim 24, leaving Claims 1-24 for consideration upon entry of the present Amendment.

Applicant respectfully submits that the rejections under 35 U.S.C. §102(b) have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

Rejections Under 35 U.S.C. §102(b)

Claims 1-20 stand rejected under 35 U.S.C. §102(b) as being anticipated by Dorri et al. (U.S. Patent No. 5,565,831, hereinafter Dorri).

Claims 21-23 stand rejected under 35 U.S.C. §102(b) as being anticipated by Crozier et al. (U.S. Patent No. 5,818,319, hereinafter Crozier).

Applicant traverses these rejections for the following reasons.

Applicant respectfully submits that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, *in a single prior art reference.*" *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). Moreover, "[t]he identical invention must be shown in as complete detail as is contained in the *** claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Furthermore, the single source must disclose all of the claimed elements "arranged as in the claim." *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

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Regarding Claims 1-11

Applicant has amended Claim 1 to now recite, inter alia, "...wherein the main magnet coils and shielding coils are configured to shape a magnetic field which comprises at least one low fringe field region when in operation, *the at least one low fringe field region being at a location less than 2.5 meters radially from the center of the field of view and having a magnetic field strength that is low enough so as to not harm the electronics.*" Support for the claim amendment may be found in the specification as originally filed. No new matter has been added.

Dependent claims inherit all of the limitations of the parent claim.

At Paragraph [0017], Applicant describes a magnet assembly 52 having an outer surface that is referred to as a housing.

At Paragraph [0019], Applicant describes the magnet assembly 52 also having an electronics housing 74 that houses electronics 76, which may be used to operate the MRI system.

At Paragraph [0006], Applicant describes the electronics 76 being located proximal to the housing of the magnet assembly 52.

At Figures 1-3, Applicant illustrates the electronics 76 and electronic housing 74 being located proximal to the housing (outer surface) of the magnet assembly 52.

At Paragraph [0021] and Figure 4, Applicant describes and illustrates the outer surface of the magnet assembly 52 being at about 95 centimeters (less than 2.5 meters) radially from the center of the field of view (center of homogenous magnetic field 84).

At Paragraph [0020] and Figure 2, Applicant describes and illustrates the magnet assembly 52 being productive of a low fringe field region 86 around the electronics 76 where the magnetic field strength is low enough in the low fringe field region 86 so as to not harm the electronics 76 that may be located within the low fringe field region 86.

In view of the foregoing, Applicant has described and illustrated a magnetic field generator wherein the main magnet coils and shielding coils are configured to shape a magnetic field which comprises at least one low fringe field region when in operation, *the at least one low fringe field region being at a location less than 2.5 meters radially*

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from the center of the field of view and having a magnetic field strength that is low enough so as to not harm the electronics, as claimed.

The Examiner alleges that the Dorri coil combinations are designed to provide a low fringe or stray field, and that the shielding is provided as is well known in the art to eliminate the effects of undesired magnetic fields on electronic equipment operating routinely beside the MRI magnet.

Applicant respectfully disagrees that Dorri discloses all of the elements of the claimed invention arranged as claimed.

Contrary to the Examiner's allegation, Applicant finds Dorri to disclose at Column 6 lines 46-60, an open magnet 10 having a 5 Gauss stray field located longitudinally and radially generally half the distance from the center of the imaging volume 64 of the open magnet 10 *compared to no shielding* (emphasis added), and at Column 2 lines 21-27, finds Dorri to disclose a bucking coil for shaping the magnetic field within the imaging volume located longitudinally between the two coil housings.

In Figures 1 and 2, as well as the accompanying text, Applicant finds no disclosure of the Dorri magnet assembly being productive of a low fringe field region located less than 2.5 meters radially from the center of the field of view and having a magnetic field strength low enough so as to not harm the electronics. More particularly, Applicant finds Dorri to be absent any discussion of electronics, or the placement of electronics relative to the location of a low fringe field region having a magnetic field strength low enough so as to not harm the electronics.

The Examiner alleges that the shielding is provided as is well known in the art to eliminate the effects of undesired magnetic fields on electronic equipment operating routinely beside the MRI magnet, but offers no specific reference as to where in Dorri such disclosure may be found.

If the Examiner is combining Dorri with knowledge of one skilled in the art to arrive at the claimed invention arranged as claimed, Applicant respectfully submits that such combination without more wholeheartedly fails to meet the burden of a showing of anticipation.

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The Dorri open magnet provides open space needed by the doctors for patient access and needed by the patients for comfort to overcome any feelings of claustrophobia (Column 5 lines 31-34), which is a substantially different invention than the claimed invention, and does not lead one skilled in the art to arrive at the claimed invention.

Absent anticipatory disclosure in Dorri of each and every element of the claimed invention *arranged as in the claim*, Dorri simply cannot be anticipatory.

Regarding Claims 12-20

The Examiner alleges for the same reasons set forth above regarding Claims 1-11 that Dorri discloses the claimed invention of Claims 12-20.

Applicant respectfully disagrees.

In Claim 12, Applicant recites, inter alia, "...electronics for operating the magnetic resonance imaging system, *the electronics located* radially outward of the housing and *proximal to the housing*...".

Dependent claims inherit all of the limitations of the parent claim.

Here, Applicant is claiming electronics 76 being located next to the housing of the magnet assembly 52.

As already discussed in reference to Claims 1-11, Applicant submits that Dorri not only does not disclose each and every element of the claimed invention arranged as claimed, but is also conspicuously absent any disclosure of electronics, and is therefore absent any disclosure of electronics being located proximal to the housing of the magnet assembly, where the magnet assembly is productive of a low fringe field region having a magnetic field strength low enough so as to not harm the electronics that may be located there.

Applicant finds Dorri to be absent any disclosure relating to the production of a low fringe field region proximal the housing of the magnet assembly where the magnetic field strength at the low fringe field region is low enough so as to not harm the electronics that may be placed there, and therefore cannot anticipate the claimed invention arranged as claimed.

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By alleging anticipation absent specific reference to anticipatory elements that may be found in Dorri, Applicant respectfully submits that the Examiner has failed to properly meet the burden of a showing of anticipation.

Regarding Claims 21-23

Applicant has amended Claims 21 and 23 to now recite, inter alia, "...defining fringe field requirements *such that the low fringe field region is produced at a distance less than 2.5 meters radially from the center of the field of view and has a magnetic field strength that is low enough so as to not harm the electronics...*".

Dependent claims inherit all of the limitations of the respective parent claim.

The Examiner alleges that Crozier anticipates the claimed invention.

Applicant respectfully disagrees.

At Column 13 lines 44-49, Crozier discloses a magnet system having a 5 gauss stray field location at about 3.0 meters transversely and 2.5 meters longitudinally from the magnet isocenter, *both of which are considered to be reasonably short distances* for a whole body superconducting magnet system (emphasis added).

In Crozier, the 5 gauss stray field location is disclosed to be 3.0 meters (greater than 2.5 meters) radially from the magnet isocenter, and Applicant finds Crozier to be absent any disclosure of electronics being placed there.

In comparing Crozier to the instant invention, Applicant respectfully submits that Crozier is absent any disclosure of defining fringe field requirements *such that the low fringe field region is produced at a distance less than 2.5 meters radially from the center of the field of view and has a magnetic field strength that is low enough so as to not harm the electronics*.

Absent anticipatory disclosure in Crozier of each and every element of the claimed invention *arranged as in the claim*, Crozier simply cannot be anticipatory.

In view of the amendment and foregoing remarks, Applicant submits that the References do not separately disclose each and every element of the claimed invention arranged as claimed, and therefore cannot be anticipatory. Accordingly, Applicant

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respectfully submits that the Examiner's rejections under 35 U.S.C. §102(b) have been traversed, and requests that the Examiner reconsider and withdraw these rejections.

Regarding New Claim 24

Applicant has added new Claim 24, which is directed to a magnetic resonance imaging system similar to that of Claim 12, but where the electronics are disposed within the at least one low fringe field region, and the at least one low fringe field region has a magnetic field strength that is low enough so as to not harm the electronics.

In view of the previous discussion relating to Claims 1-20, Applicant respectfully submits that Dorri does not disclose each and every element of the claimed invention arranged as claimed, and therefore cannot be anticipatory. Applicant further submits that Crozier does not cure the deficiency of Dorri.

Accordingly, Applicant submits that new Claim 24 is directed to allowable subject and respectfully requests entry and notice of allowance thereof.

In light of the forgoing, Applicant respectfully submits that the Examiner's rejections under 35 U.S.C. §102(b) have been traversed, and respectfully request that the Examiner reconsider and withdraw these rejections.

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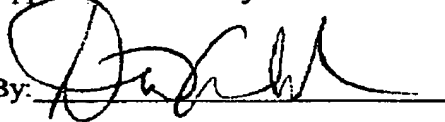
The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 07-0845.

In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above identified Deposit Account.

Respectfully submitted,

CANTOR COLBURN LLP

Applicant's Attorneys

By: 

David Arnold

Registration No: 48,894

Customer No. 23413

Address: 55 Griffin Road South, Bloomfield, Connecticut 06002
Telephone: (860) 286-2929
Fax: (860) 286-0115